

Medication Reconciliation

**Darned if you do,
Darned if you don't!**

Country Club
CARE CENTER

Crown
CARE CENTER

Wilshire
AT LAKEWOOD
Care Center

Why is Medication Reconciliation Important

- An estimated 60% of all medication errors occur during times of care transitions.
- Approximately 1.5 million preventable Adverse Drug Events (ADE) occur annually as a result of medication errors at a cost of more than \$3 billion per year.
- One in Five patients discharged from hospitals suffers from an ADE, 72% of which are related to medications.
- Seventy-six percent of Medicare re-hospitalizations in 2007 were potentially preventable, suggesting that \$13 billion of the \$15 billion in readmission costs may be unnecessary and preventable.

1. National Transitions of Care Coalition. Improving Transitions of Care: The Vision of the National Transitions of Care Coalition. May 2008. Available at <http://www.ntocc.org/Portals/0/Policy/Paper.pdf>

2. Institute of Medicine. Preventing Medication Errors, Washington, D.C.: The National Academics Press; 2007.

3. Forister, AJ, Clark, HD, Menard, A., et al. Adverse events among medical patients after discharge from hospital. CMAJ, 2004;170, 345-9.

4. Medicare Payment Advisory Commission. *Report to the Congress: Promoting Greater Efficiency in Medicare*. June 2007. Available at http://www.med.pac.gov/documents/jun07_entirereport.pdf.

Study Review

Adverse Events Due to Discontinuations in Drug Use and Dose Changes in Patients Transferred Between Acute and Long-Term Care Facilities (2004)

- Involved 4 SNF and 2 hospitals located in metropolitan NYC.
- Reviewed the admission/readmission orders of 122 admissions between the hospitals and SNF's.
- Medical records were reviewed to identify changes in medication regimens between sites.
- Two physician investigators used structured implicit review to identify ADEs attributable to transfer-related medication changes.

Study Conclusion

Adverse Events Due to Discontinuations in Drug Use and Dose Changes in Patients Transferred Between Acute and Long-Term Care Facilities (2004)

Of 71 bidirectional transfers that were reviewed by two physician investigators

- ADE's attributable to medication changes occurred during 14 (20%)
- Most common issue was omission of medications
- The overall risk of ADE per drug alteration was 4.4%
- Although most medication changes (8/14) implicated in causing ADE's occurred in the hospital, most ADE's (12/14) occurred in the nursing home after nursing home readmission.)

Study Review

Medication Discrepancies upon Hospital to Skilled Nursing Facility Transitions (2009)

- 2319 orders reviewed upon admission
- At least one medication discrepancy was identified in 142 of 199 (71.4%) SNF admissions.
- The Discharge Summary and the patient care referral form did not match in 104 of 199 (52.3%) SNF admits
- Disagreement between the discharge summary and the patient care referral form accounted for 62.0% of all medication discrepancies

Discharge Orders from the Hospital

Have you ever received a set of these transfer orders at 5:30 on a Friday?

Medication Administration Report enqM rg+Kngqnd O`r ne6 14.02 sqql f g 6.14.02

	1 Day	3 Days
Medications	07/25/13	
acetaminophen (TYLENOL) tablet 650 mg Cnr d954/ I f Eqlp9DUDQX 3 GNTQR OQM Qnt sd9Nq k OQM Qd` rnm9Sdl odq st qd OQM Bnl I dms9enqeludqf qd` sdqsg` m0/0 cdf qdr Rs q9/ 6.12.02 0702 [] @L Imhlsr st bdlm9 @L k 9Cn mmsdvbdcc 24// I f.c` x ` bds I lmmogdmeql ` lkrnt qdr bnl almdc- Qdch sd9Cn mmsdvbdcc qd krr dq ne` bds I lmmogdm64 I f.j.f.c` x nq24// I f lm 13 qnt qodqnc eqnl ` lkrnt qdr bnl almdc-		
bisacodyl (DULCOLAX) rectal suppository 10 mg Cnr d90/ I f Eqlp9C@X OQM Qnt sd9Qdbs k OQM Qd` rnm9Bnmr de` anm Rs q9/ 6.13.02 0014		
diltiazem (CARDIZEM) tablet 60 mg Cnr d95/ I f Eqlp9SGQDD SHL DR C@X Qnt sd9 Nq k Rs q9/ 6.12.02 10//	05- 02 10 Given	
enalapril (VASOTEC) tablet 10 mg Cnr d90/ I f Eqlp9DUDQX 01 GNTQR` AIC Qnt sd9Nq k Rs q9/ 6.12.02 10//	08- 10 Given	
enoxaparin (LOVENOX) injection 40 mg Cnr d93/ I f Eqlp9DUDQX 13 GNTQR Qnt sd9 rt aBTS Rs q9/ 6.12.02 08// [] @L Imhlsr st bdlm9 Ely scnr d nmv - H6b` lbt K sdc BcBkr krr sg` m2/ I K1 lmvog` q` ` blrsn` cit rscnr d odq6 bllex oqnabnk GIF G @DQS L DC: Cntog` mltog ne` acnl dm` s kl` rsl lmbgdr ` v` x qnl adllex at anmv gdm ` cl lmlr sdqnl	08	
furosemide (LASIX) tablet 40 mg Cnr d93/ I f Eqlp9C@X Qnt sd9Nq k Rs q9/ 6.13.02 / 8//	08- Given	
HYDROcodone-acetaminophen (NORCO) 5-325 mg per tablet 1 Tab Cnr d90 S` a Eqlp9DUDQX 3 GNTQR OQM Qnt sd9Nq k OQM Qd` rnm9O` lm Rs q9/ 6.12.02 0702 [] @L Imhlsr st bdlm9 @L k 9Cn mmsdvbdcc 24// I f.c` x ` bds I lmmogdmeql ` lkrnt qdr	05- Given	

Nelson
Pace
athletics?

(out?)

Or like these.....?

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ACETAMINOPHEN (TRADE NAME: TYLENOL)	325 MG	PO	EVERY 4 HOURS AS NEEDED PRN	10/21/13 121
INDICATION: PAIN SCALE 1-3						
Labels Comments: MAXIMUM OF 4000 MG PER DAY						
PRN PAIN						
PRN TEMPERATURE						
*** CHANGE ***						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ACETAMINOPHEN (TRADE NAME: TYLENOL)	650 MG	PO	EVERY 4 HOURS AS NEEDED PRN	10/21/13 121
INDICATION: PAIN SCALE 1-3						
Labels Comments: MAXIMUM OF 4000 MG PER DAY						

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	DIAZEPAM (TRADE NAME: VALIUM)	300 MG	PO	TWICE DAILY AS 300 MG AND 300 MG
*** CHANGE ***					
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	DIAZEPAM (TRADE NAME: VALIUM)	300 MG	PO	AT BEDTIME
*** CHANGE ***					

90081	PREDNISONE 20 MG TABS	60 MILLIGRAM	PO	9/12/13 9:00	Active	9/11/13	Yes / No
<i>60 mg d & 10 mg weekly, maintain @ 10 mg day</i>							
10075	XARELTO 15 MG TABS	15 MILLIGRAM	PO	9/11/13 21:00	Active	9/11/13	Yes / No
<i>BID x 3 weeks, then 20 mg day</i>							
9857	TYLENOL 325 MG TABS	325 MILLIGRAM	PO				

Our Admission Process Before

Hospital

- Receive and Review Inquiry
- Receive and Review Orders

Nurse

- Writes Orders and Puts into Computer
- Performs Admission Assessments

Med Rec

- 24 Hour Chart Check
- Reviews All Hospital Paperwork

Hospital Admission Orders

Western Missouri MEDICAL CENTER		Discharge Order Medication Profile		Page 1 Date: 10/02/13 10:49 User: [REDACTED]	
Patient: [REDACTED]	Room: [REDACTED]	Acct: [REDACTED]	Sex: [REDACTED]		
Location: [REDACTED]	Admit Date: 09/30/13	MRN: [REDACTED]	DOB: 06/22/1924	HT: [REDACTED]	Wt: [REDACTED]
Physician: [REDACTED] Diagnosis: HEMORRHOIDAL, CHRONIC ANEMIA Allergy/Adverse: Promethazine (Other)					
Home Medications Please mark medications to be continued:					
Drug	Last Taken	Last Dose	Continue	Med Change	Indicator
Adult Aspirin 80 Low Dose (Aspirin) 81 mg PO QDAY	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
* Colace 100 mg cap* (Docusate Sodium*) 100 mg PO BID	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
Coreg (Carvedilol) 6.25 mg PO BID	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
Coreg 50 mg (Losartan Potassium) 50 mg PO QDAY	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
Pish Oil (Omega-3 Fatty Acids) 1000 mg PO QDAY	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
Purosenide 40 mg TABLET (Purosenide) 20 mg PO	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
* Iams 20 mg tab* (Isosorbide MONONitrate*) 30 mg PO QDAY	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
Levemir Flexpen (Insulin Detemir) 10 units SC HS	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
Lipitor 20 mg TABLET (Atorvastatin Calcium) 20 mg PO HS	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
* Mavlon Plus 30 mL udcup* (Alum & Mag Hydrox-Simethicone*) 30 mL PO Q6H PRN	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
* Megace 400 mg/10 mL UDCUP* (Megestrol*) 600 mg PO QDAY	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
Melatonin (Melatonin-Pyridoxine) 3 mg PO HS	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
* Milk of Magnesia 30 mL UDCUP* (Magnesium Hydroxide*) 30 mL PO DAILY PRN	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
Nitroglycerin 0.4 mg tablet (Nitroglycerin) 0.4 mg SL PRN PRN	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
* Norco 5 mg/325 mg tab* (HYDROcodone/Acetaminophen*) 10 mg PO Q4HP PRN	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	
* Norco 5 mg/325 mg tab*	Unknown		<input checked="" type="checkbox"/> Continue	<input type="checkbox"/>	

These are actually the cleanest orders that we have out of 6 examples. This is also due to the joint task force for improving transfers between Country Club and Western Missouri Medical Center. Wilshire at Lakewood is on a similar task force with the Saint Lukes Hospitals.

Our Facility Physician's Order Sheet

W14914
D11

PHYSICIANS ORDERS

CANCEL ALL PREVIOUS ORDERS

Page 2—Admission orders (continued)

DIAGNOSIS:

Back pain
CHF
HTN
hypothyroidism
skin cancer
GERD
edema

not in comp.
not in comp.

ROUTINE MEDICATIONS:

Medication Order	Dose & Form	Route	Schedule	Indication/Diagnosis
stock Miralax 17gmpo q day mix w/ 8oz water/juice - constipation				
✓ Lasix 10mg po q 12h - CHF				
✓ Lasix 40mg po q day - CHF				
✓ Synthroid 75mg po q day - hypothyroidism				
✓ Toprol XL 50mg po q day - HTN pulse w/ each				
stock Senna-S 8.6-50mg q tabs po BID - constipation				
✓ Aldactone 50mg po q day - edema				
stock Calcium/VitD 600mg 1 tab po q HS - supp				
✓ Cipro 250mg po q 12h x 3 days UTI				
stock Cranberry 400mg po q day - UTI prevention				
✓ Cardizem 60mg po BID - HTN pulse w/ each				
1 stock Ferrous Sulfate 325mg po q day - supp				
✓ stock Fish oil 1000mg po q day - supp				
✓ Endur 30mg po q day - chest pain				
✓ Magnasite 250mg po q day - supp				
stock multivitamin 1 tab po q day - supp				
stock Prilosec 30mg 2 tabs po q day - GERD				
✓ stock Tylenol Arthritis 450mg po q 4h - pain w/ HS - pain w/ 3pm/4pm				

ADDITIONAL ORDERS:

* Compression T12, L1, L2
* A-Fib
* pacemaker
* constipation
* UTI
* chest pain

not in comp. or on Pos

Admission Do Not Return

PHYSICIANS SIGNATURE

DATE

Admission Checklist

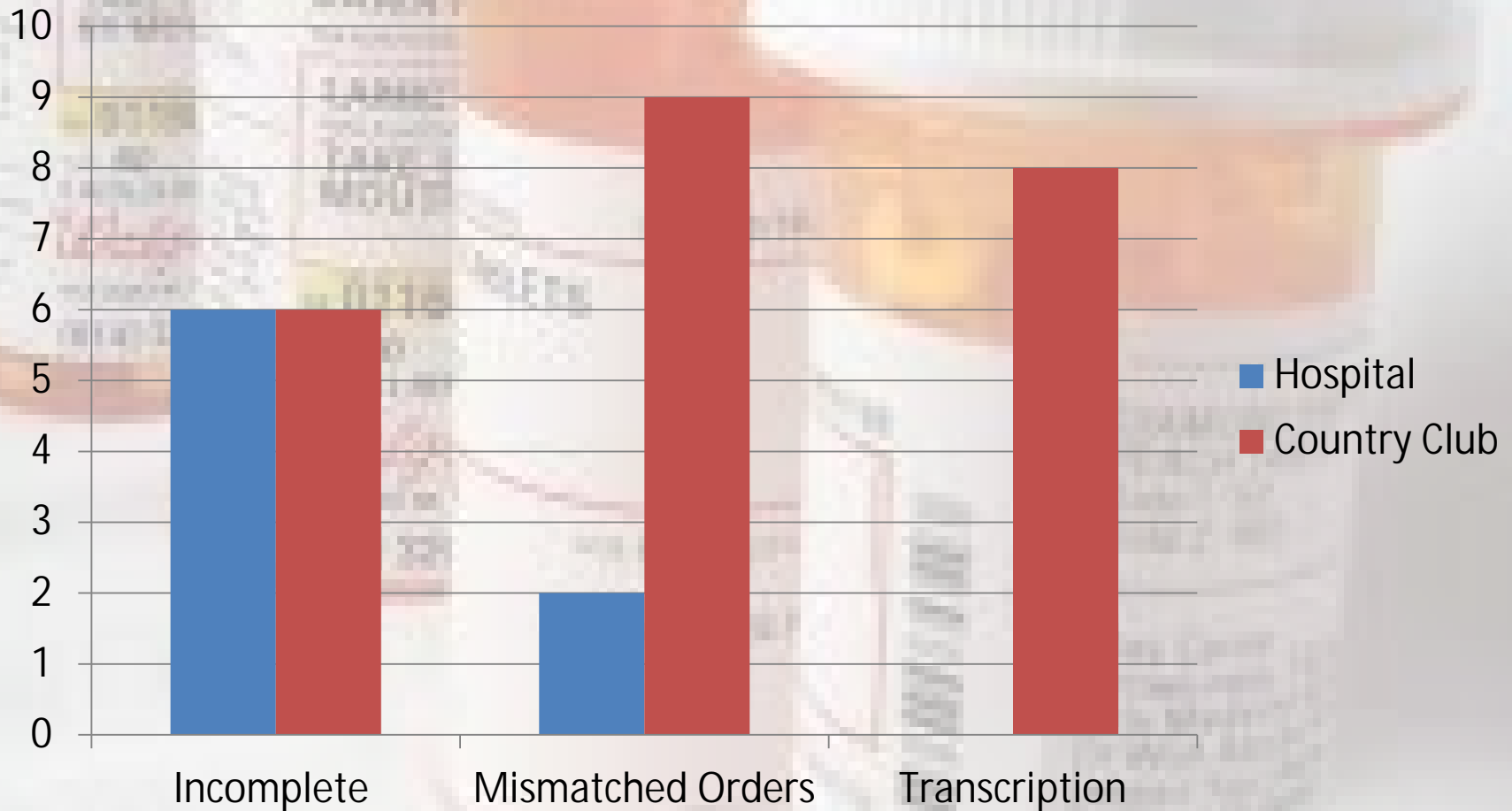
Before the Study

- This was not being used consistently.
- Was geared towards our paper admission and when the Charge Nurse was doing most of the admission.

After the Study

- Used with each admission by the Charge Nurse, Medical Records and for the 24 hour chart check.
- Is now geared to our EHR, organized by who is completing the tasks and follows the admission until completion.

Most Common Medication Errors



Root Cause Analysis Summary

Ø Orders from the Hospital:

- Ø Multiple sets with discrepancies
- Ø Illegible handwritten orders
- Ø Missing orders found in additional hospital documents.

Ø Facility Factors

- Ø Nurses with multiple distractions during the admission process.
- Ø Failure to use tools and resources available to ensure accuracy.

Ø Shared Responsibility

- Ø Late Admissions when the facility resources are less and social services and physicians at the hospital are difficult to find for clarification.

Performance Improvement Plan (PIP)

- Created an Admission Information Guide (See Handout)
- Cheat Sheet for Order Entry into our EHR (See Handout)
- Created an additional component to the 24 hour chart check that is used by Medical Records.(See Handout)
- Performed Multiple Training Sessions in all 3 Facilities with hands on training on the admission process with current and new tools.

PIP Continued

- Staffing Changes –

- Crown

- Used the 8 hour LPN/MED A Nurse shift and made it into an Evening Supervisor and changed an LPN to an RN on the Evening Shift.
 - Changed from One Nurse and a CMT on Day Shift to two Nurses. (So, no additional hours were added)

- Wilshire

- Admissions Nurse now does all the orders and the Charge Nurses perform the assessments.
 - On Dedicated MED A Unit, went from one LPN and one CMT to an RN and an LPN. (Once again, no additional hours)

- Country Club

- No staffing changes made at this time. Will soon move from having 2 Nurses and 2 CMT's on the evening shift, to having 3 Nurses to decrease the number of residents per nurse and increase involvement with medications.

Outcomes.....in progress.

✓ Country Club showed at least one error per admit as follows:

✓ May – June 32%

✓ July - 38%

✓ August - 59% Hmmm.....

✓ With the implementation of additional training and tools, the average medication error rate for the last year is 33%.

(Factors affecting the numbers noted were specific nurses, number of admits in the month and per day.)

Process After for Country Club

The Hospital Records are Reviewed by the DON and given to the Charge Nurse and Medical Records

The Charge Nurse Completes the Orders and Assessments and Medical Records puts in Standing Orders and Additional Diagnosis.

The "24 hour Chart Check is completed by Medical Records and the corrections given to the Charge Nurse for clarification.

Process after for Crown Care

The Hospital Records are Reviewed by the DON and given to the Charge Nurse and Medical Records

The Charge Nurses input only the information on the MAR/TAR/POC and the diet. Medical Records inputs all other orders.

Medical Records performs a chart audit and makes a lot of the corrections and clarifications.

Process after for Wilshire

The Hospital Records are Reviewed by the DON and given to the Charge Nurse and Medical Records

The Charge Nurse performs all Assessments and Progress Notes and welcomes the Resident.

The Admissions Nurse inputs all orders, diagnosis, and tasks, etc. into the EHR.

Medical Records performs a 24 hours chart check on the orders.

Nurse Management performs a chart check for all other documentation.

Still to Come.....

- We will be getting the enhanced order entry program from our EHR which includes us interfacing bi-directionally with our new pharmacy and additional logic checks.
- We are looking into hiring an RN to perform education which will focus on our EHR training on hire and throughout their learning process with a focus on Admissions, Order Entry and proper documentation.
- We will be modifying the staffing pattern at Country Club by adding an additional Nurse to the day and evening shift M-F.
- We will continue to modify our processes and tools as necessary and perform continuing education.

In Conclusion....

- Even with extensive training, new tools, and new processes we are seeing errors in the admission process.
- We will continue to work closely with the Hospitals on their care transitions committees to improve this process.
- Any questions?

Thank you!